TEMPORAL TRENDS OF GESTATIONAL SYPHILIS IN BRAZIL, 2012-2022

TENDÊNCIA TEMPORAL DA SÍFILIS GESTACIONAL NO BRASIL DE 2012 A 2022

TENDENCIA TEMPORAL DE LA SÍFILIS GESTACIONAL EN BRASIL DE 2012 A 2022

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ABSTRACT

Gestational syphilis is an important public health problem due to the high risk of vertical transmission and the severe repercussions for the mother-child dyad. This is a descriptive epidemiological time-series study with a quantitative approach, using secondary data from the Notifiable Diseases Information System (SINAN) and the Live Birth Information System (SINASC). Detection rates per thousand live births were calculated, and trend Figures were produced. This study aimed to analyze the temporal trend of gestational syphilis in Brazil from 2012 to 2022. The results showed a continuous increase in reported cases of gestational syphilis, rising from 16,444 cases in 2012 to 78,872 in 2022, with a detection rate of 30.79 per thousand live births in the last year analyzed. Most infected pregnant women were aged 20–29 years, were of mixed race (brown), and had low educational attainment. The Southeast and Northeast regions accounted for the highest number of notifications, and the latent clinical form was the most prevalent. Gestational syphilis shows an upward trend in the country, associated with social inequalities and weaknesses in prenatal care. The need to strengthen surveillance actions, expand testing and treatment coverage, and enhance the role of nursing in the prevention and control of this condition is emphasized.

Keywords: Gestational Syphilis. Epidemiological Surveillance. Women's Health. Nursing. Sexually Transmitted Infections.

RESUMO

A sífilis gestacional constitui um importante problema de saúde pública devido ao elevado risco de transmissão vertical e às graves repercussões para o binômio mãe-filho. Trata-se de uma pesquisa epidemiológica descritiva de série temporal, com abordagem quantitativa, utilizando dados secundários provenientes do Sistema de Informação de Agravos de Notificação (SINAN) e do Sistema de Informações sobre Nascidos Vivos (SINASC). Foram calculadas taxas de detecção por mil nascidos vivos e elaborados gráficos de tendência. Este estudo teve como objetivo analisar a tendência temporal da sífilis gestacional no Brasil

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no período de 2012 a 2022. Os resultados evidenciaram aumento contínuo das notificações de sífilis gestacional, passando de 16.444 casos em 2012 para 78.872 em 2022, com taxa de detecção de 30,79 por mil nascidos vivos no último ano analisado. A maior parte das gestantes infectadas tinha entre 20 e 29 anos, era parda e apresentava baixa escolaridade. As regiões Sudeste e Nordeste concentraram o maior número de notificações, e a forma clínica latente foi a mais prevalente. Conclui-se que a sífilis gestacional apresenta tendência ascendente no país, associada a desigualdades sociais e fragilidades na atenção pré-natal. Ressalta-se a necessidade de fortalecer as ações de vigilância, ampliar a cobertura de testagem e tratamento e valorizar o papel da enfermagem na prevenção e controle desse agravo.

Palavras-chave: Sífilis Gestacional. Vigilância Epidemiológica. Saúde da Mulher. Enfermagem. Infecções Sexualmente Transmissíveis.

RESUMEN

La sífilis gestacional constituye un importante problema de salud pública debido al alto riesgo de transmisión vertical y a las graves repercusiones para la díada madre-hijo. Se trata de un estudio epidemiológico descriptivo de series temporales con un enfoque cuantitativo, que utiliza datos secundarios del Sistema de Información de Enfermedades de Declaración Obligatoria (SINAN) y del Sistema de Información de Nacidos Vivos (SINASC). Se calcularon las tasas de detección por cada mil nacidos vivos y se crearon gráficos de tendencias. Este estudio tuvo como objetivo analizar la tendencia temporal de la sífilis gestacional en Brasil de 2012 a 2022. Los resultados mostraron un aumento continuo en las notificaciones de sífilis gestacional, que pasaron de 16.444 casos en 2012 a 78.872 en 2022, con una tasa de detección de 30,79 por cada mil nacidos vivos en el último año analizado. La mayoría de las embarazadas infectadas tenían entre 20 y 29 años, eran de raza mixta y presentaban bajo nivel educativo. Las regiones Sudeste y Noreste concentraron el mayor número de notificaciones, siendo la forma clínica latente la más prevalente. Se concluye que la sífilis gestacional muestra una tendencia ascendente en el país, asociada a desigualdades sociales y deficiencias en la atención prenatal. Se destaca la necesidad de fortalecer las acciones de vigilancia, ampliar la cobertura de pruebas y tratamiento, y valorar el papel de enfermería en la prevención y el control de esta enfermedad.

Palabras clave: Sífilis Gestacional. Vigilancia Epidemiológica. Salud de la Mujer. Enfermería. Infecciones de Transmisión Sexual.

1 INTRODUCTION

Syphilis is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*, which throughout history has been an important public health problem. The infection occurs mainly through sexual contact, through contact with active lesions, but it can also be transmitted vertically from mother to fetus during pregnancy or at the time of delivery. Among STIs, syphilis remains one of the most worrisome for public health, as it is fully preventable, treatable, and has consolidated clinical protocols, but still has a high burden of maternal and child morbidity and mortality (Brasil, 2024).

Gestational syphilis has shown an increasing trend in recent decades, becoming an important challenge for Brazilian public health. According to the Epidemiological Bulletin of the Ministry of Health, between 1999 and June 2024, more than 340 thousand cases of congenital syphilis were recorded in children under one year of age, reflecting the persistence of vertical transmission in the country. In 2023 alone, 86,111 cases of syphilis were reported in pregnant women, corresponding to a detection rate of 27.1 cases per thousand live births, a value higher than the previous year (Brasil, 2024). Although part of this increase may be related to the expansion of testing actions and the improvement of notifications, the data also show persistent weaknesses in prevention strategies and prenatal care (Cavichioli *et al.,* 2024).

The analysis of the reported cases reveals significant regional disparities and a sociodemoFigureic profile characteristic of the affected pregnant women. In 2023, 60.1% of pregnant women diagnosed with syphilis belonged to the age group between 20 and 29 years old, and the highest concentration of cases was observed in the Northeast and Southeast regions, where higher population rates and social inequalities are concentrated (Brasil, 2024). These findings suggest that factors such as socioeconomic vulnerability, low education, and limited access to health services directly influence the risk of infection and the maintenance of transmission (Cardoso *et al.,* 2023).

In view of this scenario, the fight against gestational syphilis requires integrated actions aimed at prevention, early diagnosis and timely treatment, with emphasis on the qualification of prenatal care and the strengthening of Primary Health Care. In this context, nursing plays a strategic role, both in direct care for pregnant women and in epidemiological surveillance and health education actions.

In view of the facts presented, this study is justified by the relevance of gestational syphilis as a public health problem, due to the high potential for vertical transmission and the consequences for the mother-child binomial. Although there are clinical guidelines for screening and treatment, there is a continuous increase in cases in the country, evidencing

limitations in current control strategies. The analysis of the temporal trend of this disease makes it possible to evaluate the effectiveness of the public policies implemented and to identify regional and structural failures that make it difficult to cope with the disease, especially in contexts of social vulnerability.

1.1 OBJECTIVES

1.1.1 General

To analyze the temporal trend of gestational syphilis in Brazil from 2012 to 2022, based on secondary data available in TABNET/SINAN.

1.1.2 Specifics

a) To describe the evolution of the number of reported cases of gestational syphilis in Brazil per year;
b) To identify the sociodemoFigureic profile of pregnant women with syphilis;
c) Compare the distribution of cases between the different regions of the country.

2 THEORETICAL FRAMEWORK

Syphilis is a sexually transmitted infection caused by the bacterium Treponema pallidum, whose first documented records date back to the late fifteenth century, a period in which an epidemic outbreak spread rapidly across Europe after the military campaign of King Charles VIII of France in Naples in 1494. According to Ferreira *et al.* (2019), this initial episode was marked by severe clinical manifestations, such as ulcerated lesions and high mortality, attracting the attention of medicine at the time.

Although the first written records date back to the fifteenth century, recent scientific discoveries point to an even more remote origin of the disease. Paleogenomic studies have identified genetic evidence of Treponema pallidum that is approximately 9,000 years old in the Americas, reinforcing the Colombian hypothesis that syphilis was brought to the European continent during the great navigations, through contact with indigenous American populations (Barquera *et al.,* 2025).

From a clinical point of view, syphilis has four evolutionary phases: primary, secondary, latent and tertiary. The primary phase is characterized by the presence of hard canker, painless and highly infectious ulcer; The secondary phase is marked by systemic manifestations, such as generalized skin rash, mucocutaneous lesions, and lymphadenopathy. After this stage, the infection can evolve to the latent phase, characterized by the absence of clinical signs and symptoms, although with reactive serology, being

subdivided into recent and late. The tertiary stage, currently less frequent due to early diagnosis, can appear years after contagion and present severe complications, such as neurosyphilis, cardiovascular syphilis, and gummy lesions in different organs (Brasil, 2024; Brazil, 2025).

The diagnosis of syphilis is based on treponemal and non-treponemal tests, such as VDRL, FTA-ABS, and rapid tests, widely available in the public health network for screening and confirmation. The treatment, based on the administration of benzathine penicillin, is effective, safe, and capable of interrupting the chain of transmission, reinforcing the importance of adherence to clinical protocols, especially during prenatal care (Brasil, 2024).

Gestational syphilis is defined as the infection caused by Treponema pallidum diagnosed during pregnancy, regardless of the presence of clinical signs or symptoms. This condition has relevant particularities, because in addition to affecting maternal health, it has a high potential for vertical transmission, which can compromise fetal development (Silva *et al.,* 2024).

The risk of vertical transmission is directly related to the clinical stage of the disease and the time of exposure of the fetus to the infectious agent. Transmission can occur at any stage of pregnancy or during childbirth, and is more likely in the primary and secondary phases, when there is a higher bacterial load. According to the Ministry of Health (2024), the intrauterine transmission rate can reach up to 80% in cases that are not properly diagnosed or treated.

The consequences of maternal infection for the fetus are serious and widely documented. Untreated syphilis during pregnancy can result in miscarriage, stillbirth, premature birth, low birth weight, and congenital syphilis, often associated with neurological manifestations, bone deformities, and skin lesions (Costa, 2024). In addition, Tourinho (2025) highlights that intrauterine exposure to syphilis increases the risk of hospitalizations in children in the first years of life, evidencing the prolonged impact of this infection on child health.

The social determinants of health play a central role in the epidemiology of gestational syphilis in Brazil. Conditions such as poverty, low education, lack of reproductive planning, and barriers to access to prenatal care hinder early diagnosis and appropriate treatment. Studies also point out that discontinuity in care and non-adherence of sexual partners to treatment contribute to the persistence of infection, increasing reinfection rates and the incidence of congenital syphilis (Laranjeira *et al.,* 2024). Thus, understanding the epidemiological context of gestational syphilis requires not only the analysis of notification data, but also the consideration of the social and structural determinants that support the

problem at the national level.

The fight against gestational syphilis in Brazil is supported by a set of public policies and guidelines instituted by the Ministry of Health, aimed at the prevention, diagnosis and timely treatment of the infection. Since 1986, with Ordinance No. 542/1986, congenital syphilis has been included in the list of notifiable diseases, which was later expanded to syphilis in pregnant women in 2005 and to the form acquired in 2010, consolidating the Notifiable Diseases Information System (SINAN) as an essential tool for epidemiological monitoring and surveillance (Brazil, 1986; Brazil, 2005; Brazil, 2010).

Among the strategies implemented by the Ministry of Health to combat syphilis in Brazil, the National STD/AIDS Program, the Stork Network and the Syphilis No Project stand out, which reinforce epidemiological surveillance and the qualification of prenatal care.

In 2025, the National Campaign "Syphilis has a cure - Get tested, treated and prevented", promoted by the Ministry of Health, reinforces the commitment to social mobilization, testing and free treatment within the scope of the Unified Health System (SUS) (Brasil, 2021; Services and Information of Brazil, 2025). Rapid testing in Primary Health Care represents one of the pillars of coping actions, allowing early diagnosis and immediate initiation of treatment during prenatal care (Brasil, 2024).

Despite regulatory and operational advances, significant challenges persist for the effective control of gestational syphilis in the country, such as intermittent shortages of benzathine penicillin, underreporting of cases, incomplete completion of forms, and low adherence of pregnant women and their partners to treatment (Cavichioli *et al.,* 2024). These factors weaken surveillance actions and make it difficult to achieve the goals of eliminating vertical transmission.

The role of nursing is central in the prevention, diagnosis, and control of gestational syphilis, acting in early screening, monitoring of pregnant women and their sexual partners, health education, and adequate completion of notification forms (Brasil, 2022; Cofen, 2023). Epidemiological surveillance uses systems such as SINAN and the TABNET platform to monitor cases, enabling temporal, regional and demoFigureic analyses of the disease (Brasil, 2012).

The use of secondary data from official databases offers advantages such as broad national coverage, longitudinal analyses, and resource savings, although it has limitations related to underreporting and the quality of records, which should be considered when interpreting the results (Laranjeira *et al.,* 2024; Cavichioli *et al.,* 2024).

3 METHODOLOGY

3.1 RESEARCH DESIGN

This is a descriptive time series research, with a quantitative approach, based on the analysis of secondary data of notified cases of gestational syphilis in Brazil, from 2012 to 2022.

3.2 DATA SOURCE

Data were obtained through the TABNET/DataSUS platform, in the Notifiable Diseases and Conditions module of SINAN - 2007, considering all notifications of gestational syphilis registered between 2012 and 2022.

In addition, the databases of the Information System on Live Births (SINASC), used to obtain the total number of live births in the same period, were consulted in order to support the calculation of detection rates.

3.3 VARIABLES

They were organized according to the following blocks:

- SociodemoFigureic: age group, education and race/color of the pregnant woman;
- Clinical: case classification, evolution and type of diagnosis;
- Epidemiological: year of notification, region and federative unit of residence.

3.4 ANALYSIS PROCEDURES

The extracted data were organized in electronic spreadsheets in Microsoft Excel, allowing the visualization and manipulation of the information. Figures of temporal trend, sociodemoFigureic, clinical, and epidemiological distribution were elaborated, enabling the visual analysis of the evolution of cases and the identification of relevant patterns.

3.5 CALCULATION OF THE DETECTION RATE

To calculate the detection rate of gestational syphilis, the number of confirmed cases of syphilis in pregnant women divided by the total number of live births in the same year was used, multiplying the result by 1000 and according to the formula below:

$$\textbf{Taxa de detecção} = \frac{\textbf{Número de casos confirmados de Sífilis em Gestantes}}{\textbf{Número total de nascidos vivos}} * \textbf{1.000} \qquad (1)$$

3.6 ETHICAL ASPECTS

As this is a research that uses secondary, aggregated and public domain data, obtained from official databases of the Ministry of Health, there was no direct contact with participants, nor collection of information that would enable the identification of individuals.

Thus, according to Resolution No. 510/2016 of the National Health Council, this study is one of the situations that do not require consideration by the Research Ethics Committee, as it does not involve personally identifiable data. Even so, the principles of secrecy, confidentiality and exclusive use of information for scientific purposes were preserved

4 RESULTS AND DISCUSSIONS

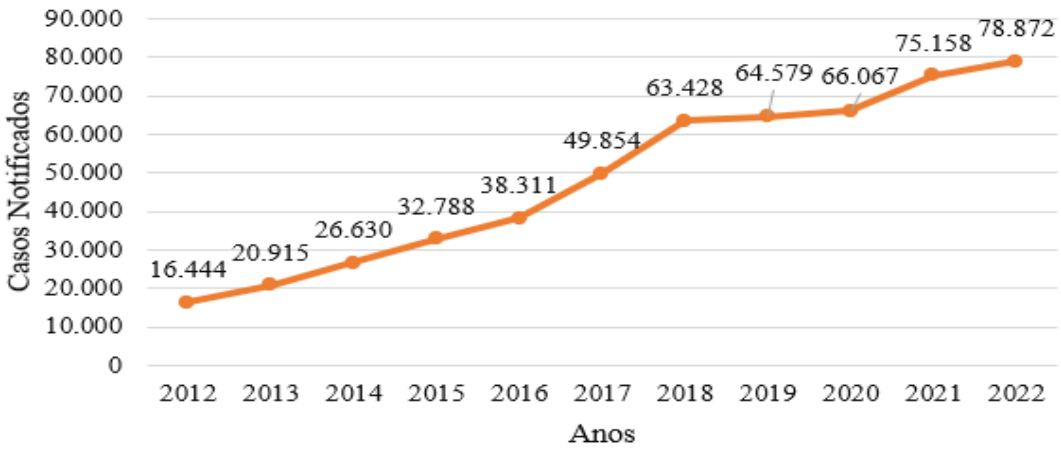
4.1 CHARACTERIZATION OF SYPHILIS NOTIFICATIONS IN PREGNANT WOMEN IN BRAZIL

In the period from 2012 to 2022, 533,046 cases of syphilis in pregnant women were reported in Brazil. The temporal analysis shows a continuous growth in notifications over the years. In 2012, 16,444 cases were registered, a number that has progressively increased: 20,915 in 2013, 26,630 in 2014, 32,788 in 2015 and 38,311 in 2016. From 2017 onwards, the pace of growth became more pronounced, with 49,854 cases. In 2018, there was a new jump, totaling 63,428 notifications, remaining at high levels in subsequent years: 64,579 in 2019, 66,067 in 2020, 75,158 in 2021 and reaching 78,872 cases in 2022, the highest number in the entire period analyzed (Figure 1).

Overall, an average increase of approximately 6,692 cases per year was observed. The average annual growth rate was 16.97%, showing a consistent upward trend in syphilis notifications in pregnant women throughout the time series.

Figure 1

Evolution of reported cases of syphilis in pregnant women, Brazil, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN, 2025

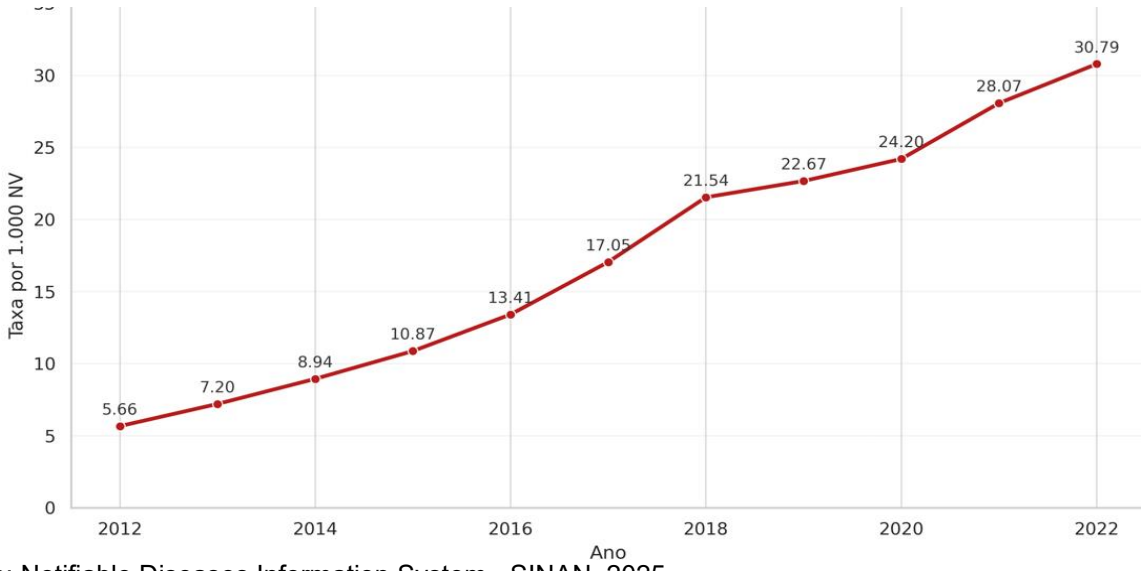
According to Lima et al. (2022), the epidemiological behavior of gestational syphilis may be associated with multiple factors, including the real increase in the incidence of the disease, the expansion of access to health services, improvements in notification systems, and greater awareness of primary care professionals regarding the importance of testing during prenatal care.

The Ministry of Health (Brasil, 2023) highlights that the expansion of rapid prenatal testing and the strengthening of epidemiological surveillance explain, in part, the increase in notifications observed in recent years. Complementing this perspective, Silva *et al.,* (2025) indicate that improvements in prenatal coverage and in the notification system contributed to the increase in the number of registered cases. In addition, Pavinati *et al.,* (2025) point out that challenges such as insufficient early screening, adherence to treatment, and reinfection remain, factors that help to understand the persistence of high rates of gestational syphilis in Brazil.

Regarding the detection rate of gestational syphilis, it was observed that in the study period it showed a significant increase throughout the period. In 2012, the indicator was 5.66 per 1,000 live births, increasing to 7.20 in 2013 and 8.94 in 2014. In 2015, it reached 10.87, and in 2016 it jumped to 13.41 per 1,000. In 2017, the rate reached 17.05, in 2018 it was 21.54. In the following years, the indicator maintained the upward trend, reaching 22.67 in 2019, 24.20 in 2020, and reaching 28.07 in 2021. The highest value in the time series was recorded in 2022, with 30.79 per 1,000 live births (Figure 2).

Figure 2

Gestational syphilis detection rate per 1,000 live births, Brazil, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN, 2025

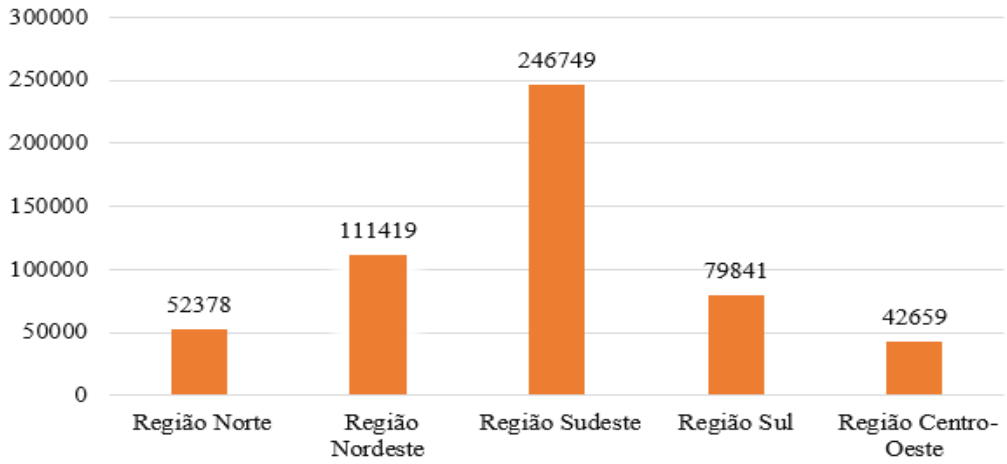
The data show a consistent increase over the decade, signaling the persistence of gestational syphilis as a relevant public health problem in Brazil (Ministry of Health, 2023).

In addition, these results are in line with the Ministry of Health's Syphilis Epidemiological Bulletins (Brasil, 2021; 2022), which point to advances in expanding testing, strengthening epidemiological surveillance, and, at the same time, the persistence of high rates of infection transmission in Brazil.

Regarding the distribution of cases of gestational syphilis considering the regions of the country, it was observed that the southeast region concentrated the highest number of records, with 246,749 notifications (43.9%). This high number may be associated with population size, the more intense urbanization process, and the greater capillarity of notification and testing systems. Next, the Northeast Region had 111,419 cases (20.9%), followed by the South Region, with 79,841 cases (14.2%). The northern region recorded 52,378 cases (9.8%) and the central-west region, 42,659 cases (7.6%) (Figure 3).

Figure 3

Cases of Syphilis in Pregnant Women by region of Brazil, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN, 2025

These data show that, although gestational syphilis is present throughout the national territory, there is a greater concentration in the Southeast and Northeast regions, which together correspond to more than 60% of the notifications. This distribution reinforces the need for specific regional strategies, considering inequalities in access, prenatal coverage, service infrastructure, and socioeconomic conditions. Rodrigues *et al.,* (2022) highlight that factors such as accelerated urbanization and social inequality contribute to the higher number of cases in these regions.

In addition, according to the Ministry of Health (Brasil, 2023), the expansion of the use of rapid tests in Primary Care favored the early identification of infected pregnant women.

However, there are still barriers to access and weaknesses in the continuity of care, especially in the North and Northeast regions.

For Nursing, this scenario signals the importance of organizing territorialized practices, adapted to local specificities, with a focus on qualifying prenatal care and strengthening Primary Care (Reis *et al.,* 2024; Fontinele *et al.,* 2023). The planning of health education, testing, and follow-up actions for pregnant women should consider the regional epidemiological profile, ensuring expanded access to prenatal care, the offer of rapid tests in Basic Health Units, and the monitoring of maternal and partner treatment.

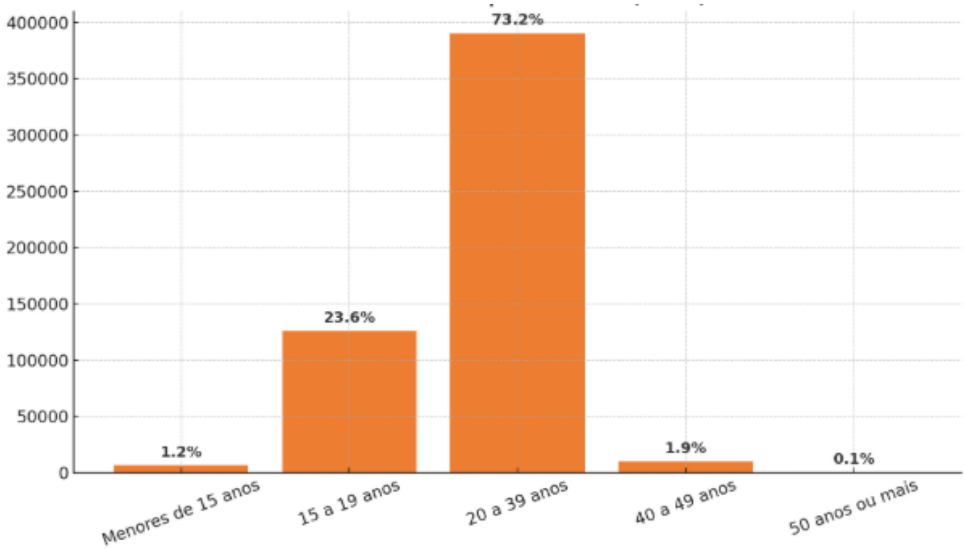
The Ministry of Health recommends that screening for syphilis be carried out in the first and third trimesters of pregnancy, in addition to the time of delivery, reinforcing the importance of protocols that ensure retesting and continuous follow-up of pregnant women by nursing teams (Brasil, 2022).

4.2 SOCIODEMOFIGUREIC PROFILE OF SYPHILIS NOTIFICATIONS IN PREGNANT WOMEN IN BRAZIL

According to the age group, about 73.2% of the pregnant women with syphilis reported were between 20 and 39 years old. Pregnant women aged between 15 and 19 years also had a significant participation, totaling 125,983 cases (23.6%). The age groups of children under 15 years of age and women over 40 years of age had significantly lower proportions. Among those under 15 years of age, 6,413 cases (1.2%) were registered, while the age group of 40 to 49 years totaled 9,958 notifications (1.9%). Among pregnant women aged 50 years or older, 381 cases (0.07%) were reported (Figure 4).

Figure 4

Percentage of gestational syphilis by age group, 2012 to 2022



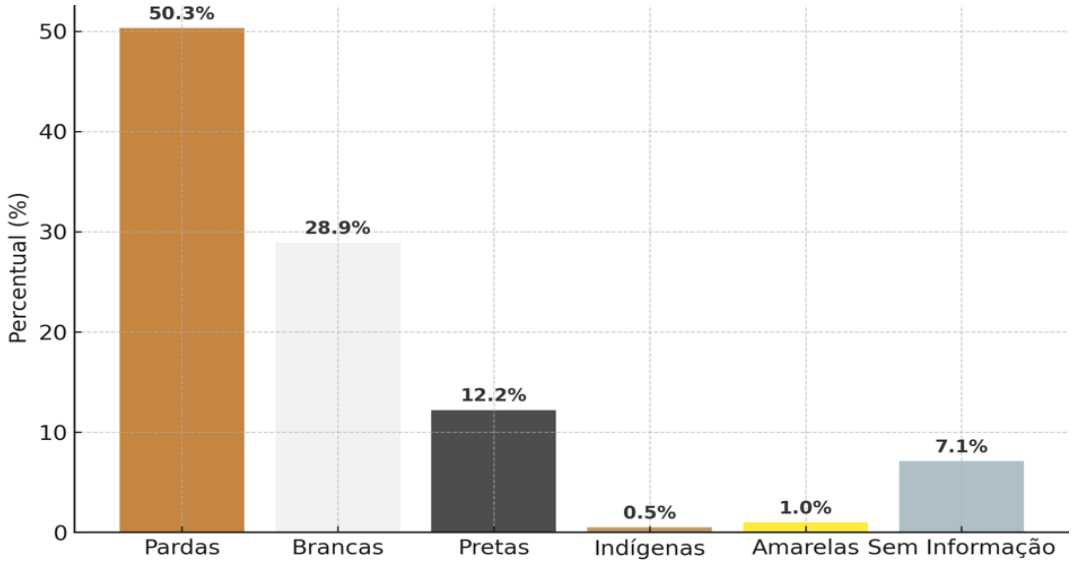
Source: Notifiable Diseases Information System - SINAN, 2025

This age profile coincides with the most active reproductive phase of women, which reinforces the need to expand screening strategies in prenatal care and reproductive planning. According to the Syphilis Epidemiological Bulletin (Brazil, 2024), in 2023, the highest proportion of cases occurred in pregnant women aged 20 to 29 years (50.5%), followed by 30 to 39 years (26.9%) and adolescents aged 15 to 19 years (21.2%). These findings confirm the greater vulnerability of women of childbearing age and highlight the relevance of interventions aimed at prevention, early diagnosis, and timely treatment.

Regarding race/color, most of the reported cases were of women who declared themselves brown, totaling 268,362 cases (50.3%), followed by white (28.9%) and black (12.2%). Indigenous women represented 0.5% and yellow women 1.0%, while 7.1% of the records did not have information on race/color (Figure 5).

Figure 5

Percentage of gestational syphilis cases by race/color, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN, 2025

These findings dialogue with data from the 2024 Syphilis Epidemiological Bulletin, according to which the highest proportion of cases in pregnant women occurred among brown women (61.5%), followed by black (16.6%) and white (19.8%) women (Brasil, 2024). The bulletin points out that such distribution reflects social inequalities and barriers in access to timely prenatal care.

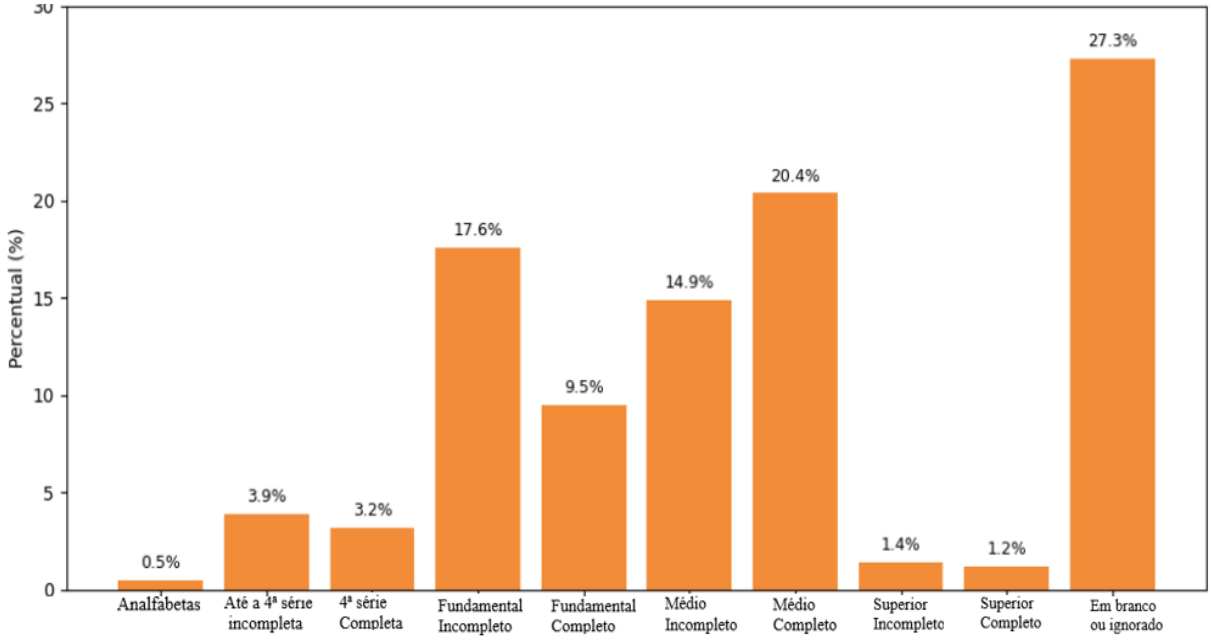
In the same sense, Laranjeira *et al.,* (2024), identified a higher prevalence of gestational syphilis in young, brown, and socially vulnerable pregnant women. These data reinforce that the intersection between race/color and social determinants of health influences the risk of infection and late diagnosis.

The distribution of cases according to education shows that the highest number of records occurred in pregnant women with complete high school (20.4%), followed by incomplete elementary school (17.6%) and incomplete high school (14.9%). In a smaller proportion, pregnant women with complete elementary education (9.5%), up to the incomplete 4th grade (3.9%), and complete 4th grade (3.2%) appear. The illiterate group corresponded to 0.5% of cases.

The presence of infection among women with a higher level of education was significantly lower: 7,580 cases occurred in pregnant women with incomplete higher education (1.4%) and 6,314 in complete higher education (1.2%). Only 227 records (0.04%) were classified as "not applicable", and in 145,577 notifications (27.3%) the education field was left blank or ignored (Figure 6).

Figure 6

Percentage of gestational syphilis cases according to the education level of pregnant women, Brazil, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN/TABNET (2025)

These data confirm that, although gestational syphilis is present in all levels of education, it is more prevalent among women with low or medium formal education. The Syphilis Epidemiological Bulletin highlights that low education is associated with worse socioeconomic conditions and greater difficulty in accessing health services, impacting early screening of infection (Brasil, 2024).

Similarly, Cardoso *et al*., (2023) identified a higher prevalence of gestational syphilis among women with low education, reinforcing the need for educational strategies and expanding access to prenatal care as fundamental measures to reduce vertical transmission.

4.3 CLINICAL PROFILE OF SYPHILIS NOTIFICATIONS IN PREGNANT WOMEN IN BRAZIL

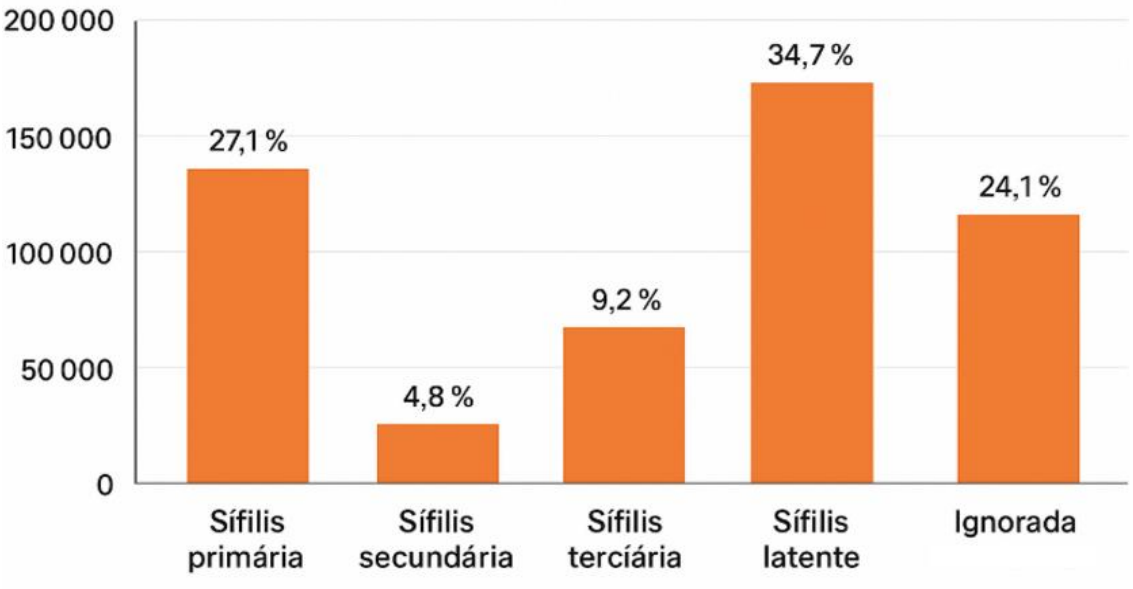
Most cases of syphilis in pregnant women were classified as latent syphilis, totaling 185,073 notifications (34.7%). This clinical form is characterized by the absence of signs and symptoms, although with reactive serological tests, which can hinder timely diagnosis during prenatal care. The second most frequent form was primary syphilis, with 144,684 cases (27.1%), followed by tertiary syphilis (49,202 cases; 9.2%) and secondary syphilis (25,832 cases; 4.8%).

It is noteworthy that, in 128,255 notifications (24.1%), the clinical classification was recorded as *unknown or not informed*, which limits a more precise analysis of the distribution

of clinical forms and compromises the understanding of the evolution of cases. This high percentage of incomplete data reinforces weaknesses in the completion of notification forms and may impact the quality of epidemiological surveillance (Figure 7).

Figure 7

Percentage of Gestational Syphilis Cases by Clinical Classification, 2012 to 2022



Source: Notifiable Diseases Information System - SINAN/TABNET (2025)

The higher proportion of notifications classified as latent syphilis can have different interpretations. On the one hand, it reflects the effectiveness of serological screening performed in prenatal care, since it makes it possible to identify asymptomatic pregnant women still in silent phases of infection. On the other hand, it may signal delays in the detection of the early stages of the disease, suggesting failures in early screening and timely access to health services (Nakano *et al.,* 2022).

Thus, the Syphilis Epidemiological Bulletin highlights that this scenario reinforces the need to repeat testing at different times of pregnancy at the beginning of prenatal care, in the third trimester and at birth, as well as to improve the completion of notification forms, in order to reduce underdiagnosis and improve epidemiological surveillance (Brasil, 2024).

In a complementary way, a study by Morais and Teixeira (2025) points out that the recurrence of syphilis in pregnant women is directly related to failures in early diagnosis, adequate treatment, and the structure of prenatal care, elements that perpetuate maternal-fetal vulnerability.

5 CONCLUSION

The analysis of the temporal trend of gestational syphilis in Brazil, from 2012 to 2022, showed a significant and continuous growth in notifications, confirming the persistence of this disease as a relevant public health problem. The increase in detection rates reflects both the expansion of testing and epidemiological surveillance and the persistence of weaknesses in prenatal care and social inequalities that make it difficult to control vertical transmission.

The findings showed a higher concentration of cases in the Southeast and Northeast regions, as well as a predominance among young, brown pregnant women with low education, evidencing the influence of social determinants of health on the occurrence of gestational syphilis. The predominance of the latent clinical form was also observed, which reinforces the importance of timely serological screening during prenatal care. The high proportion of notifications with incomplete information is also noteworthy, indicating limitations in the quality of records and information systems.

In this context, qualified prenatal care is a central strategy for the prevention, early diagnosis and appropriate treatment of gestational syphilis. Strengthening the role of nursing, especially in Primary Health Care, is essential for carrying out rapid tests, monitoring pregnant women and their sexual partners, providing health guidance and monitoring treatment adherence.

It is concluded that the fight against gestational syphilis requires continuous and integrated actions, with the strengthening of epidemiological surveillance, qualification of records, expansion of access to quality prenatal care and reduction of social inequalities. Such strategies are essential to reduce vertical transmission and to advance in the achievement of national goals for the elimination of congenital syphilis in Brazil.

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